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NATIONAL LEAD OF OHIO ROLLING OPERATIONS AT SIMONDS SAW & STEEL- AUGUST 5-6, 1954

SYMBOL: HSH:PBK

During the course of conducting an airborne contamination study for the St. Louis Area Office at the Simonds Saw and Steel Co., Lockport, N.Y., on the above dates, I observed the National Lead uranium and thorium rolling operations which were in progress at the 16" and 10" mills respectively. Although this survey was made without the direct request of the National Lead Co., I am reporting the results for your information.

At the 10" mill where 38 thorium ingots were rolled into lengthened rods, the following was observed:

1. No dust control was used, i.e. local exhaust over rolls, central vacuum cleanup system, floor gratings etc.

2. Sweeping of steel plate floor with brooms.

3. Tracking of dust from rolls to rest areas.

During the previous survey of thorium ingot rolling which was also done on the 10" mill in November 24-25, 1952, all of the twenty mill employees who were studied, were found to be exposed to concentrations exceeding the maximum permissible concentration of 70 alpha $d/m/M^3$. The average weighted exposure was 1030 $d/m/M^3$ (15 MAC) and the maximum weighted exposure was 2800 $d/m/M^3$ (40 MAC). As a result of these findings, recommendations were made for the protection of operating and other plant personnel during performance of future infrequent thorium rolling operations. These recommendations were not followed. They are:

1. Rolling operations should be performed on the weekend or when other plant personnel are not at work.

2. Protective clothing should be worn by all mill personnel and visitors.

3. All personnel in the mill area should wear respirators.

4. Eating and smoking should be curtailed in this area.

During the uranium ingot rolling at the 16" mill the following deviations from previously proved and accepted practices were found:

1. Plexiglass side shields had been removed from canopy hoods over both rolls.

2. Floor gratings were removed from the entire mill area.

3. Mechanical quencher removed and in its stead an open unventilated quench tank employed to descale rods.

4. Push brooms used instead of central vacuum cleaning system.

5. Molten salt and lead furnace had been removed.

General air samples taken on the center area of the east and west sides of the mill were found to average 350 alpha d/m/M^3, the highest being 400 alpha d/m/M^3.

Several Juno (SIC) measurements were taken after a brief cleanup of the mill floor area. Alpha floor contamination ranged from 10 to 80,000 alpha d/m/100 cm^2 on the mill floor, 20,000 alpha d/m/100 cm^2 on the quench tank area, 15-20,000 alpha d/m/100 cm^2 along conveyor to quench tank and 25,000 alpha d/m/100 cm^2 at the furnace floor.

The exposures which were found were too high even for intermittent operations. If any rolling is to be done at Simonds in the future, not only should greater concern be given to these operations from a health and safety standpoint but also from the possible losses in SF material in the form of airborne and plant contamination. It is also important that consideration be given to the possible repercussions of such extensive plant contamination when our contracts are terminated. Even now, decontamination would be costly.

cc: N. H. Woodruff, Oak Ridge